

ABB MOTION SERVICES

Modernization services for drives

Extending the lifetime of your equipment



- ABB's modernization services offer retrofits, upgrades and replacement solutions for both ABB and non-ABB drives
- In this catalog we present the detailed offering of ABB's modernization services for drives

Modernization extends the reliability of your drive over its lifetime by providing risk management for aging equipment within your business operations.

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Securing the reliability and continuity of your operations

Are you aware of the support available for your critical drive assets?

Even the most reliable pieces of equipment will eventually experience a failure. This is when having access to the necessary support – operation ready spares and qualified technicians – is critical, to ensure that these failures have a minimal impact on operational security. Unfortunately, when equipment with limited support does fail, it can be disastrous: the operator suffers extended unplanned downtime, requiring an extensive search for ready to operate equivalents and other band-aid solutions.

We provide ongoing support, so we don't let you down

All ABB products are covered by an extensive lifecycle management model, which ensures managed transitions throughout the lifecycle of equipment. This provides flexibility to maintain operational continuity within budgetary restrictions. The lifecycle management model includes notice of any upcoming lifecycle transitions, helping you to avoid any surprises. Multiple solutions are available to manage support requirements, providing the opportunity for operational improvements.





Modernization services – a proactive approach

ABB's modernization services offers an alternative method to manage your equipment. By proactively targeting equipment to be serviced and maintained, you can potentially reduce your overall costs. Upgrades, retrofits, replacements, and even upgrades on non-ABB equipment are possible options which can secure operational security.

What about when my equipment becomes obsolete?

Even when equipment enters the stage of its lifecycle where it begins to become obsolete, there are multiple potential modernization services available. These services enable you to return drive equipment back to its original reliability, potentially increasing its performance and providing greater flexibility with new features.

How do I find the right solution for my equipment?

You understand your equipment and the needs of your business. We can ensure that you have multiple options to manage the reliability of your equipment. We can offer expert advice on the practicalities of the modernization of equipment, as well as the implementation and future operation of different solutions. We work with you as a partner, to optimize the solution based on your budgetary requirements.

Why ABB?

ABB supports you through the whole process of managing the lifecycle of your assets. If you are focused on operational excellence, performance improvement, or working with constrained resources, we will work with you to find a solution. Whether it's optimizing the maintenance schedule to avoid lengthy breaks in operation, or applying our extensive knowledge of your installed products to reduce installation and commissioning costs, ABB is ready to help you deliver on your goals.

- **Secure operational continuity**
by extending the lifetime of your drive system
- **Manage component obsolescence**
with modernization solutions
- **Improve usability and safety**
with new features
- **Secure reliability and improve performance**
with proven technology
- **Identify emerging equipment problems**
before they happen

Your reliable partner in drive modernizations

Is reliability your biggest worry? Are you wondering how you can afford the investment required? At ABB, we work with you to find the optimal solutions to modernize your drive equipment. We seek to understand you and your business, and can offer flexible solutions to solve the challenges you face with aging drives.



"As an Automation manager, I have to keep my equipment running whilst controlling my costs. When I do my job as promised, I build trust with my managers."

With ABB's modernization services, you can select the right services to suit your budget. The extensive ABB lifecycle model allows you to plan your modernization actions and execute your plan at the optimal moment.



"As an Operations Manager, my ultimate goal is to reduce unexpected shutdowns, and maintain reliability. This helps the company to achieve our production goals, and helps me to do my job well."

By retrofitting and upgrading the drive system at the right time, you can guarantee operational continuity, extending the lifetime of your system, and potentially even introducing process improvements.



"For me, as a maintenance engineer, it is important that the installation is quick, uncomplicated, and proceeds according to plan. This allows me to finish my job as planned and get home on time."

ABB's modernization services offer a fast and efficient way to upgrade your equipment with the latest technology. Together we select the best solution to modernize your drive based on your maintenance strategy, resources and existing equipment.



"As a Factory Manager, I want to maximize the profitability of our operation, to maintain the success of our business in the years to come."

If a drive is not supported it could have dramatic consequences on a plant's operation and profitability. With ABB's modernization services you can secure a plant's future productivity and profitability with optimized and targeted investment.

Supporting you throughout the entire lifecycle

The ABB life cycle management model provides you with information about the support that your drive can receive. The model helps you to choose various modernization and lifetime extending solutions, as every ABB product has a defined lifecycle. This means lifecycle changes are known years in advance. Therefore, ABB can help you select the best timing for modernization actions, based on the model of your drive.



In the **Active** phase, your drive has the full range of life cycle services available, covering installation and commissioning, training, spare parts, maintenance, repairs, engineering, consulting and digital services.

Examples of Active products

- ACS580
- ACS880
- ACS2000
- ACS6080
- DCS880

In the **Classic** phase, the full range of lifecycle services are available covering installation and commissioning, training, spare parts, maintenance, repairs, engineering, consulting and digital services, whilst product enhancements may be available through modernization solutions.

Examples of Classic products

- ACS600 air-cooled Multidrives
- ACS800-07 Single Drives
- ACS1000 air-cooled (Generation 1) after AMC34 Upgrade
- ACS6000 (Generation 1)
- DCS600 modules upgraded by DCS800-R00

When your drive reaches the **Limited** phase, a more limited range of lifecycle services are available, with the limited stock of available spare parts, whilst product enhancements may be available through **modernization solutions**.

Examples of Limited products

- ACS607 single drives
- ACS6000c air-cooled (AMC3)
- DCS500B modules

In the **Obsolete** phase, only replacement and end-of life services are available. With **modernization solutions**, your drive can be brought back to the **Active** or **Classic** phase of its lifecycle, ensuring the full availability of lifecycle services and ensuring operational continuity.

Examples of Obsolete products

- ACV700
- Sami Star
- PSR MV CYCLOCONVERTER
- Tyrak Midi II

A full-page photograph showing two industrial workers in a factory setting. They are wearing hard hats, safety glasses, and work clothes. One worker is wearing yellow gloves and is reaching towards a large, complex piece of machinery painted in a vibrant blue. The machinery features large pipes, valves, and structural components. The workers are standing on a metal grating platform. The lighting is bright, highlighting the industrial environment.

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An ABB expert will help you
to determine the life cycle
of your drive and find
the best solution to fit
your needs.

Offering four options to modernize your drive

ABB can offer four different options to modernize your drive. Selecting the best option for you depends on your own processes, how the drives are used, as well as the types of drive that are in operation.

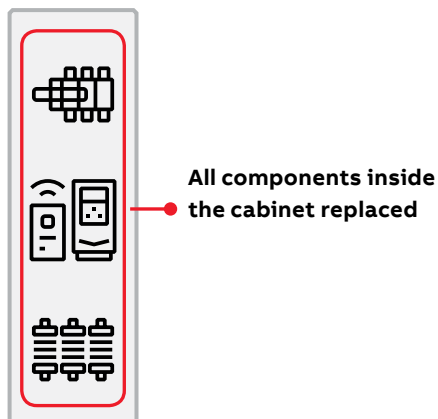
Retrofitting can be an option used to modernize Low Voltage drives, whereas Medium Voltage drives can be upgraded. For DC drives and non-ABB equipment, both solutions are available. Replacement of drives is available for all drive types.

Fast project delivery – with our expertise, we can guarantee the best possible timeframe for modernization, and one that suits your schedule.

1 Drive retrofit

Bringing the old (Classic, Limited, Obsolete) drive back to the Active phase of its lifecycle, without changing the cabinet and existing motor and control cabling.

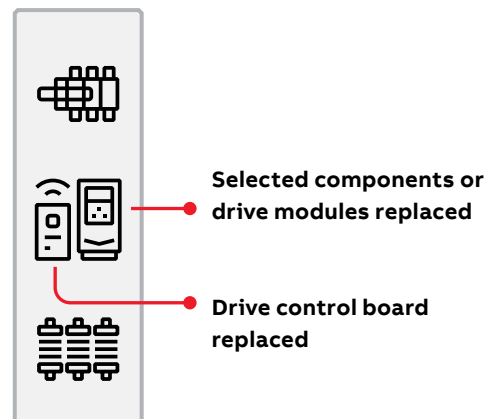
- Cabinet content replaced with the latest technology



2 Drive upgrade

Selected components or drive modules of the older drive platform are replaced. In some cases older power or auxiliary system parts are replaced as well. It is also possible to add features to the drive during the process or update the design of the drive to bring it in-line with the latest product release.

- Components or drive modules are updated with the latest technology





3 Drive replacements

Replacing an old drive with a new ABB product, best suited to your requirements.

- Selecting the most suitable replacement solution for an ABB or non-ABB drive
- The whole portfolio of ABB Active drives are available
- New Classic drive modules are also available

4 Modernization of non-ABB drives

Non-ABB drives can be modernized to a current and supported ABB drive or ABB control platform.

- Legacy products are modernized with the latest ABB technology
- Shutdown times are optimized
- Each modernization solution is selected to best suit your needs



Whole cabinet replaced



Modernization solution selected on a case-by-case basis

Modernization solutions for your LV AC drives

The ABB LV AC Drive Modernization is a fast and effective way to upgrade installed drives with new technology, bringing immediate performance improvements to a plant or process.

With the modernization solutions, old generation drives, such as Sami Star, ACV700 and ACS600, can easily be modernized to the latest ACS880 technology, also available for non-ABB drives. The Retrofit Service will update the lifecycle of existing Classic, Limited or Obsolete drives, bringing them into the Active phase of the lifecycle. The Module Upgrade service will upgrade the drive module to the latest ACS880 drive platform, without the need to upgrade any other components inside the cabinet.

Why modernization

The ABB LV AC Drive Modernization service allows you to replace only the essential components of your drive. This means, that the modernization can be undertaken with a minimum interruption to normal operations, and with investment targeted in the most efficient way possible. The service is also very flexible and can be adapted to coincide with your own scheduled shutdowns. Modernization doesn't require major changes to the current infrastructure, as existing cabinet structures can be used. This will minimize the total investment required for a modernization project.

Gradual modernization

If you have a large base of installed drives, the ABB drive modernization can be implemented in phases to avoid lengthy shutdowns.



Optimizing planned downtime

The ABB LV AC drive modernization service can be carried out in line with your own production schedules to minimize the interruption to operations.



Rapid deployment

ABB-certified engineers are trained and available to carry out modernizations rapidly.

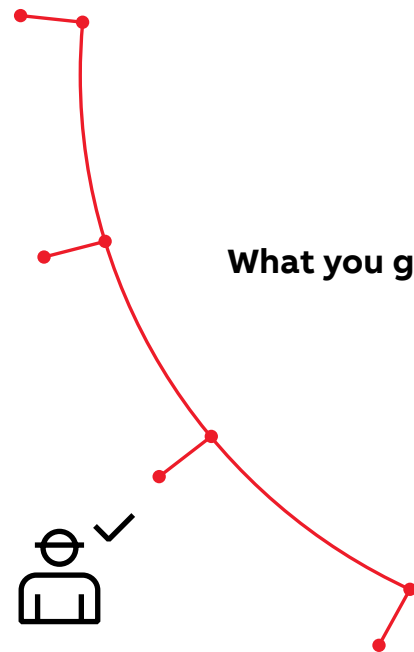


Reduced wastage and investment

By re-using the existing drive's cabinet, cables and motors, the modernization service helps you retain more of your original investment and modernize more efficiently.



What you get



Three options to modernize your ABB LV AC drive

- The Kit retrofit is delivered with pre-installed sub-assemblies and module.
- In Frame retrofit an integrated frame assembly is inserted to the existing cabinet.
- The module upgrade solution changes the drive module to the latest ACS880 drive.

ABB experts will help you to select the right option, taking into account the time, space and resources available.

1 Kit retrofit

- Pre-installed sub-assemblies and module
- Flexible configuration on-site

2 Frame retrofit

- Integrated frame assembly from factory
- Reduced installation time

3 Module upgrade

- New drive module, control board and parts to easily fit to old cabinet
- Simple selection and extremely fast to install

The Frame retrofit process of a LV drive



Existing cabinets and cabling are retained



Frame is inserted



Ready assembly

Modernization types for ABB drives

Product to modernize	Modernization variant	Drive section	Type code
ACS607 Single drives	ACS607 to ACS880U module upgrade	N/A	ACS880U-07S6
ACS607 Single drives	ACS607 to ACS880R frame retrofit	N/A	ACS880R-07F6
ACS600 Multidrive	ACS600 to ACS880R frame retrofit	inverter unit	ACS880R-107S6
ACS600 Multidrive	ACS600 to ACS880R standard retrofit	inverter unit	ACS880R-207S6
ACS600 Multidrive	ACS600 to ACS880R standard retrofit	IGBT supply unit	ACS880R-307S6
ACS600 Multidrive	ACS600 to ACS880R standard retrofit	diode supply unit	ACS880R-407S6
ACS600 Multidrive	ACS600 to ACS880R standard retrofit	thyristor supply unit 6/12-pulse	ACS880R-407/807S6
ACS600 Multidrive	ACS600 to ACS880U control upgrade	thyristor supply unit 6/12-pulse	ACS880U-407/807C6
ACV700/Sami Star	ACV700/Sami Star to ACS880R standard retrofit	inverter unit	ACS880R-107SS
ACV700/Sami Star	ACV700/Sami Star to ACS880R standard retrofit	diode supply unit	ACS880R-307SS
ACV700/Sami Star	ACV700/Sami Star to ACS880R standard retrofit	thyristor supply unit	ACS880R-407SS

Modernization solutions for your MV drives

Would you like to extend the lifetime of your drives and make your existing equipment IoT ready? If so, it is time to upgrade. ABB offers a broad set of upgrade services that can enhance the efficiency and reliability of your drive, bringing it in-line with the latest technology advancements.

Why upgrade

The ABB Upgrade Service unlocks the latest features of MV drives by installing state-of-the-art control systems within proven and existing designs. An engineered solution for upgrading

MV drives can help minimize investment costs, and reduce the downtime required. This upgrade service can also enhance the efficiency and reliability of your drive, bringing it in-line with the latest advancements in technology.

What you get



Performance improvements

A control upgrade enables the use of the latest technology and control algorithms, improving reliability and efficiency, as well as the safety of your processes.



Guaranteed lifecycle services

All services, including the provision of spare parts, technical support and training, are available for your drive following a life cycle upgrade.



Securing operational reliability

Your process continues to operate with the highest reliability, guaranteed by the latest control platforms and the replacement of ageing components.



Digitalization with ABB Ability™

ABB Ability™ enables condition monitoring and remote assistance of production operations, providing actionable data that can be used to improve the performance of your applications.

Two options to upgrade your MV drive to extend the life cycle support

A Control Upgrade secures the operational reliability of your process by replacing the components of the older generation control platform with the latest control platform. Other components in the drive that are reaching the end of their lifecycle are also replaced. By executing a control upgrade, the functional lifetime of the complete drive is typically extended by around 10 years.

A Main Board Upgrade updates the current control platform to the latest version. At the same time, hardware improvements can be implemented.

1 Control Upgrade

- Changes the control platform
- Guarantees functionality for the next 10 years

2 Main Board Upgrade

- Updates current control platform to the latest version
- Hardware upgrades can be implemented at the same time if necessary

The control upgrade process of the MV drive



Obsolete control technology



Removal of control electronics



Installation of latest technology

— Modernization types for ABB drives

Product to modernize	Old control platform	Modernization variants	New platform
ACS6000 (Generation 2)	AMC (AMC34)	Control Upgrade	UMC (BCU-55)
ACS6000 (Generation 1)	AMC (AMC3 or AMC33)	Control upgrade	UMC (BCU-55)
ACS1000 air-cooled (Generation 1)	AMC (AMC3 or AMC33)	Main board upgrade	AMC (AMC34)
ACS1000 water-cooled (Generation 1)	AMC (AMC3 or AMC33)	Main board upgrade	AMC (AMC34)
ACS6000c air-cooled	AMC (AMC3)	Main board upgrade	AMC (AMC34)
ACS6000c water-cooled	AMC (AMC3 or AMC33)	Main board upgrade	AMC (AMC34)
SAMI MEGASTAR W	PSR	Control upgrade	AMC (AMC34)
PSR CYCLOCONVERTER	PSR	Control upgrade	AMC (AMC34)
ANALOG CYCLOCONVERTER	Analog	Control upgrade	AMC (AMC34)
MEGADRIIVE-LCI	PSR	Control upgrade	PEC (PEC3)
MEGADRIIVE-LCI	PEC (PEC2)	Main board upgrade	PEC (PEC3)

Modernization solutions for your DC drives

Millions of DC drives are being used around the world in every conceivable application, often giving excellent service for many years. Frequently, for various reasons, users want to modernize their drive systems. When modernizing your DC drive system, ABB offers customized packages specifically tailored to your requirements.

Why DC modernization

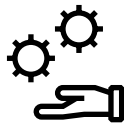
Thyristor technology used in DC drives is very robust. However, the control electronics and many other components need to be replaced as the drive ages in order to keep it functioning correctly. The DC modernization service will

update the essential components of your DC drive to bring it in-line with the latest innovations in DC drive control technology, as well as adding modern features to the existing installation. This minimizes downtime, ensuring your investment is deployed as efficiently as possible.



Optimized investment

The new hardware used to modernize your DC drive can be optimized to suit your equipment, improving your cost control. Components with a long lifetime can also be reused, ensuring that a DC drive retrofit is always a cost efficient solution.



Ease of use

With new, modernized designs and technologies, your drive is easy to setup, use, commission, configure, and maintain. The modernized DC drive is designed to maximize the harmony between DC and AC drives. This reduces the training required when handling the different systems and technologies.



Performance improvement

Utilizing digital technology with up-to-date communication interfaces and control performance systems enables increased process productivity, guarantees the quality, and improves the performance of the whole production facility. This reduces the risk of unexpected shutdowns.



Optimized planned downtime

The modernization service can be carried out inline with your own production schedules. A benefit of a modernization, is that the required shutdown time is shorter than for a complete installation of a new system.

What you get

Three options to modernize your DC drive

ABB offers 3 different options to modernize your existing DC drive, depending on its power and drive generation:

- A Control Upgrade with rebuild kit
- A Retrofit
- A Replacement with module

An ABB specialist can help you make the right selection using the table below.

1 Control upgrade with DCS880-U, DCS800-R or TYRAK 8 rebuild kit

- Changes to the control platform
- The old thyristor bridges remain

2 Retrofit with DCS800-E module

The current control platform is updated, as well as the thyristor module and main circuit breakers and switches.

3 Replacement with DCS880-S or DCS800-S module

The control platform and thyristor module are updated.



DCS880-R rebuild kit



DCS800-E module



DCS880-S

Upgrade types for ABB DC drives

Product to be modernized	20-520 A	520-1000A	1000-3000A
ASEA TYRAK 8	Retrofit kit DCS800-E	Control upgrade with TYRAK 8 Rebuild kit	Control upgrade with TYRAK 8 Rebuild kit
ASEA TYRAK L	–	Control upgrade with DCS800-R	Control upgrade with DCS800 Rebuild kit TYRAK L (2Q/4Q)
DCS500 / DCV700 DCS500B / DCS600	Replacement with DCS880-S or DCS800-S Module	Replacement with DCS880-S or DCS800-S Module	Control upgrade with DCS880-U Upgrade kit

Replacements for your drives

ABB helps you to select the most efficient method for modernizing your existing equipment, and where it is an appropriate solution, can also help replace an old drive with a totally new drive. The old drive can be replaced with a new ABB drive in active or classic production.

Two ways to replace your drive

ABB offers two methods to replace your old drive with an Active or Classic replacement. An Active replacement provides you with a full set of new features. This includes a full set of functional safety features, new drive programming tools, and active product support. When you have a big fleet of classic drives and aren't able to invest in spares or new drive support, or the training of personnel, ABB offers a one-to-one replacement with a similar classic-phase drive. This means your existing drive will not need modifications to the control platform, enabling you to continue your operations as normal.

Replacement with Active

- Replacing any ABB or non-ABB drive with an active ABB drive
- Includes a full set of new features and benefits

Replacement with Classic

- Replacing an ABB drive with similar modules from available Classic products
- Updated version of module features
- One-to-one replacement to allow for continuous operations



**Examples of Active products**

- ACS580
- ACS880 AC drives
- ACS6080
- DCS880-S DC drives modules
- DCS800-A drive cabinets

**Available Classic products**

- ACS800-01 wall mounted AC drives
- ACS800-x04 AC drives modules
- ACS550-01 wall mounted AC drives

Modernizations for your non-ABB drives

ABB can also modernize non-ABB drives with selected portfolio products. By using ABB's modernization services, you can provide the latest technology for your existing non-ABB legacy drives.

Modernizations for non-ABB LCI drives

Non-ABB LCI drives can be modernized using the same technology as used in ABB LCI drives. ABB offers three different options to modernize your non-ABB LCI drive:

- A Control Upgrade – upgrading the LCI control with the latest ABB LCI Drive Controller (PEC3)
- A Converter Retrofit – together with the control platform, you receive the latest technology with ABB power modules
- A full drive replacement with a new ABB LCI Drive cabinet

Modernizations for non-ABB DC drives

With a DCS880-R Rebuild kit, you can obtain a brand new ABB Control Platform suitable for your old legacy DC Drive.

- Using the old thyristor bridge and accessories but updating the control platform with the latest technology
- Replacing the old converter totally with the new ABB DCS880 DC Drive, guaranteeing lifetime support for years to come

Automation system replacement with new ABB automation

Together with drive modernizations, ABB can help you to replace your existing legacy control platform with a new ABB Automation System such as the AC500 or AC800M. Furthermore, ABB's own classic phase automation systems can be modified so that the communication between the drive and upper level communication systems works fluently after the modernization, minimizing disruption to production.





Additional information

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